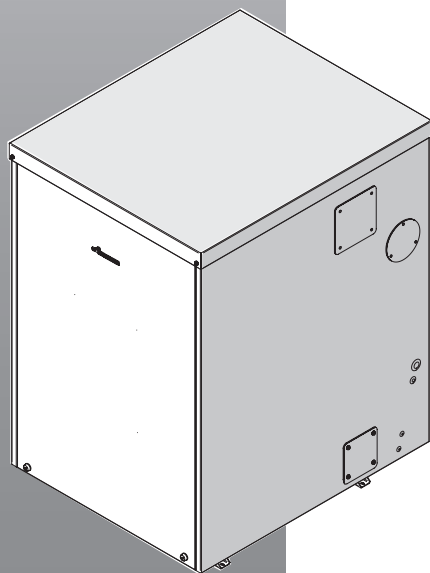


USER INSTRUCTIONS & CUSTOMER CARE GUIDE
EXTERNAL OIL FIRED CONDENSING COMBINATION BOILER
BALANCED FLUE

GREENSTAR HEATSLAVE EXTERNAL
12/18, 18/25, 25/32

**FOR OPEN VENT AND SEALED CENTRAL HEATING SYSTEMS WITH
DOMESTIC MAINS FED HOT WATER**



**THE BOILER IS FOR USE WITH
KEROSENE (28 SECOND OIL) ONLY**

UK

 **WORCESTER**
Bosch Group

CONTACT INFORMATION

WORCESTER, BOSCH:

TECHNICAL: 0844 892 3366
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LITERATURE: 0844 892 9800
SALES: 01905 752640
WEBSITE: worcester-bosch.co.uk

USER INSTRUCTIONS & CUSTOMER CARE GUIDE

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE OPERATING YOUR BOILER

THESE INSTRUCTIONS ARE APPLICABLE TO THE WORCESTER, BOSCH GROUP BOILER MODEL(S) STATED ON THE FRONT COVER OF THIS MANUAL ONLY AND MUST NOT BE USED WITH ANY OTHER MAKE OR MODEL OF BOILER.

THE INSTRUCTIONS APPLY IN MAINLAND UK ONLY AND SHOULD BE FOLLOWED EXCEPT FOR ANY STATUTORY OBLIGATION.

IF YOU ARE IN ANY DOUBT CONTACT THE WORCESTER, BOSCH GROUP TECHNICAL SUPPORT.

THIS BOILER MUST BE INSTALLED BY A OFTEC REGISTERED, COMPETENT PERSON. FAILURE TO INSTALL CORRECTLY COULD LEAD TO PROSECUTION.

**PLEASE LEAVE THIS GUIDE, THE
INSTALLATION INSTRUCTIONS AND
THE COMPLETED CHECKLIST WITH
THE USER.**

**NOTE: A CHECKLIST AND SERVICE
INTERVAL RECORD CAN BE FOUND
AT THE REAR OF THE INSTALLATION,
COMMISSIONING AND SERVICE
INSTRUCTIONS.**

ABBREVIATIONS:

SEDBUK Seasonal Efficiency for Domestic
Boilers in the United Kingdom.

OFTEC Oil Firing Technical Association for the
Petroleum Industry.

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Dedicated to heating comfort

Thank you for purchasing a Greenstar oil fired condensing boiler from Worcester, Bosch Group. The company prides itself on manufacturing boilers to the strictest quality control standards throughout every stage of production.

Worcester, Bosch Group has led the field in innovative boiler design and performance for more than 40 years. This heritage means all products are of exceptional quality and proven reliability.

The condensing range in particular, is extremely energy efficient, converting more of the fuel consumed into heat offering you economical running costs and value for money. It sits in SEBUK band A, at the top of the energy rated boilers available.

There is also the assurance of our no-nonsense parts and labour guarantee - backed up by an optional servicing and maintenance contract to keep your boiler operating at peak condition and efficiency.

To find out more about Worcester, Bosch Group, log onto worcester-bosch.co.uk.

INTRODUCTION

USING YOUR
BOILER

MAINTENANCE

GENERAL
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SAFETY PRECAUTIONS

OIL FUMES OR LEAKS FROM THE BOILER:

- ✓ Extinguish any naked flames.
- ✓ Switch off the boiler electricity supply.
- ✓ Isolate the fuel supply to the boiler.
- ✓ Contact installer/service engineer.

IMPORTANT:

This boiler must only be operated by a responsible adult who has been instructed in, understands and is aware of the boiler's operating conditions and effects.

HEALTH & SAFETY:

The appliance contains no asbestos and no substances have been used in the construction process that contravene the COSHH Regulations (Control of Substances Hazardous to Health Regulations 1988). Where applicable, the CE mark indicates compliance with relative EU Directives.

COMBUSTIBLE AND CORROSIVE MATERIALS:

Do not store or use any combustible materials (paper, thinners, paints etc.) inside or within the vicinity of the boiler.

The combustion air must be kept clear of chemically aggressive substances which can corrode the boiler and invalidate any warranty.

FITTING & MODIFICATIONS:

Fitting the boiler and any controls to the boiler may only be carried out by a competent engineer in accordance with the relevant Installation Regulations.

Flue systems must not be modified in any way other than as described in the fitting instructions.

Any misuse or unauthorised modifications to the boiler, flue or associated components and systems could invalidate the warranty. The manufacturer accepts no liability arising from any such actions, excluding statutory rights.

This boiler is suitable for use with kerosene only, no other fuel may be used.

DO NOT OPERATE THE APPLIANCE WHEN:

The appliance, flue or system is incorrectly fitted, faulty or damaged.

The flue terminal outlet is obstructed or damaged.

There are fumes, fuel leaks or fuel smells from the fuel supply, appliance or internal flue system.

The system is empty, frozen or unpressurised (sealed systems).

The condensate pipe is blocked or restricted.

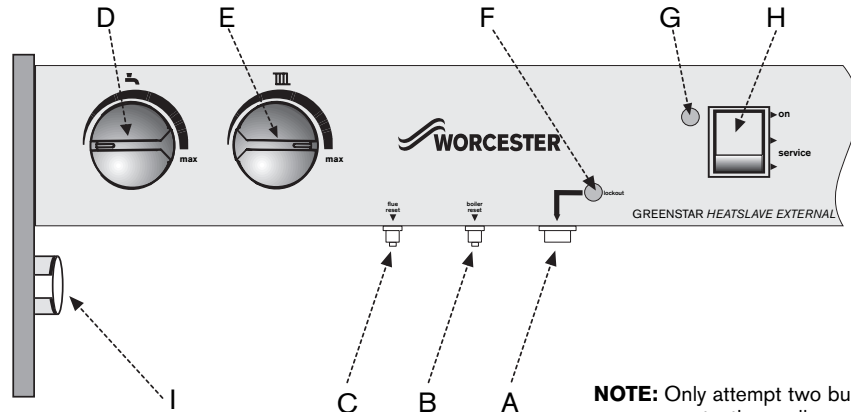
The appliance clearances are inadequate.

The air supply is restricted or vents damaged.

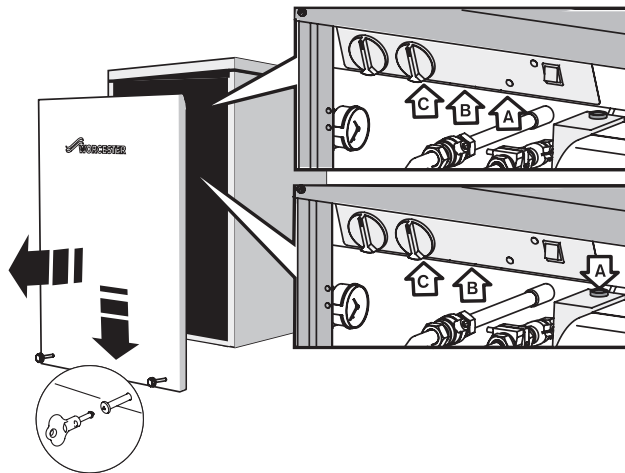
CONTROLS

To remove the front panel, undo the screws on each side of the base of the front panel using the tool provided (see diagram below). The panel can then be removed by pulling out at the base and then sliding down to disengage from the lid.

- A Reset button - lock out*. *The alternative reset is accessed by reaching under the fascia and pressing the reset button on the control box of the burner (see diagram below).
- B Reset button - boiler.
- C Reset button - flue thermostat.
- D Hot water temperature control.
- E Central heating temperature control.
- F Lock-out indicator.
- G Boiler mode indicator.
- H Mode switch, Boiler ON or Service.
- I Pressure gauge.



NOTE: Only attempt two burner resets, then call your service engineer for advice



Lockout reset button locations

All Models

Remove front panel to access Burner Reset Button (A)

Thermostat Reset Buttons (B and C) are common to all models.

*Alternative reset location

If the reset button under the control panel does not reset the burner, press the alternative Burner Reset Button (A).

OPERATING THE BOILER

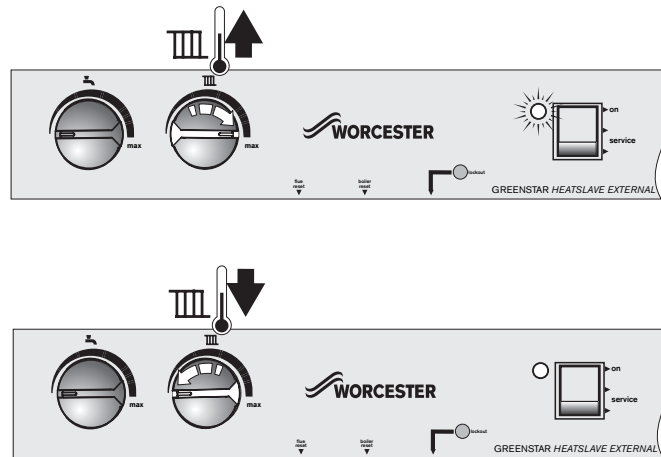
SWITCHING THE BOILER ON/OFF:

- ▶ To switch on the boiler; turn on the water, oil and electricity supply to the boiler.
 - ▶ Check the mode switch is in boiler ON position with the indicator illuminated.
 - ▶ Check the programmer/timer is correct and it is set to ON.
 - ▶ Set the room thermostat to the desired setting.
 - ▶ Open and set thermostatic radiator valves as required.
 - ▶ Turn the boiler water temperature control to the required setting.
 - ▶ To switch off the boiler; turn the programmer/timer to OFF for heating and hot water.
- If the boiler is left unused and exposed to freezing conditions; shut off all the mains supplies, isolate the boiler and drain the system and boiler.*

CENTRAL HEATING TEMPERATURE CONTROL

- ▶ Turn the control clockwise to increase the water temperature to the radiators.
- ▶ Turn the control anti-clockwise to reduce the water temperature to the radiators.

The minimum and maximum ranges of the heating control positions are approximately 55°C to 80°C.



CONTROLLING CENTRAL HEATING:

- ▶ Set the programmer/timer to the correct time with the required ON/OFF periods.
- ▶ Turn the room thermostat to the temperature required.
- ▶ Set thermostatic radiator valves to the required temperature for each room.

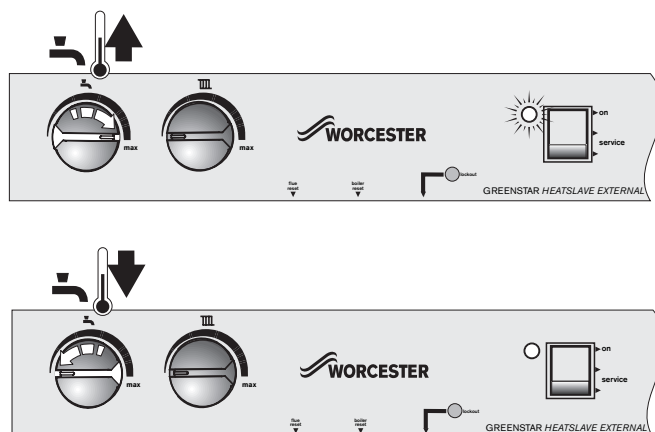
OPERATING THE BOILER

SETTING THE HOT WATER TEMPERATURE:

- ▶ Turn the control clockwise to increase the water temperature.
- ▶ Turn the control anti-clockwise to reduce the water temperature.

A high setting will give a higher hot water temperature and greater quantities of hot water.

WARNING: care should be taken when washing your hands as the combination of low water flow rate and high setting of the hot water control thermostat can result in very hot water at the tap.



FROST PROTECTION:

- ▶ Frost thermostats are fitted to the boiler to protect the boiler and system from the risk of freezing.
- ▶ The boiler mode indicator light **MUST** be illuminated for the frost protection to operate.

In the unlikely event that there is no hot water or heating, check pages 9 and 10 for fault condition guidance.

OPERATING THE BOILER

PRESSURE GAUGE:

The pressure gauge indicates the boiler/heating system water pressure and has two pointers:

Red (external) pointer is set manually to indicate the normal system pressure (1 to 1.5 bar for sealed systems, 0 to 0.5 bar for open vent systems).

Grey (internal) pointer shows the actual system pressure (on sealed systems the pressure will rise when the boiler/system heats up from cold). *Please check with your installer what type of system you have.*



Sealed System pressure when boiler is operating

On sealed systems the red pointer should be set to the normal operating pressure (1 to 1.5 bar) and the grey pointer will fluctuate around this pressure depending on whether the system is hot or cold. If a sealed system pressure drops below 1 bar the system should be repressurised to between 1 and 1.5 bar using the filling link (refer to page 7).

Regularly check that the pressure is maintained. If there is a persistent drop in pressure which has to be adjusted regularly, or the pressure rises to more than 2.5 bar, the cause must be investigated. Contact your installer or maintenance engineer for advice.

On open vent systems the pressure gauge is not used and the grey needle will remain at the bottom of its scale. If the pressure rises to more than 1 bar please contact your installer for advice.

OPERATING THE BOILER

FILLING LINK: Sealed systems only

A filling link consists of two manually operated valves and a flexible pipe that allows water to be added to the system when the valves are opened. This device must only be connected when topping up the system and disconnected when not in use.

If the sealed system pressure within your system drops to below 0.5 bar (shown on the pressure gauge) you will need to increase the pressure to ensure your boiler continues to run without problems.

Your installer should have informed you where to find the filling system and instructed you in its use.

To increase the pressure follow these instructions:

1. A pressure gauge should be visible from the filling link.
2. Connect the flexible hose across the two valves, one leading from the boiler and the other from the mains water supply. The connecting nuts need only to be hand tight.
3. Slowly open both valves ensuring that water does not leak from either end of the flexible hose.
4. You will hear water passing through the hose and valves and the grey needle on the pressure gauge will rise.
5. When the needle rises to between 1 and 1.5 bar close both valves, the needle should now remain at that pressure.
6. The hose should then be disconnected from at least one valve, a small amount of water will flow from the hose, this is normal. If water continues to flow from the hose then the valve has not been fully closed or is faulty. If it is faulty you will need to contact your installer to resolve the problem.

USING YOUR
BOILER

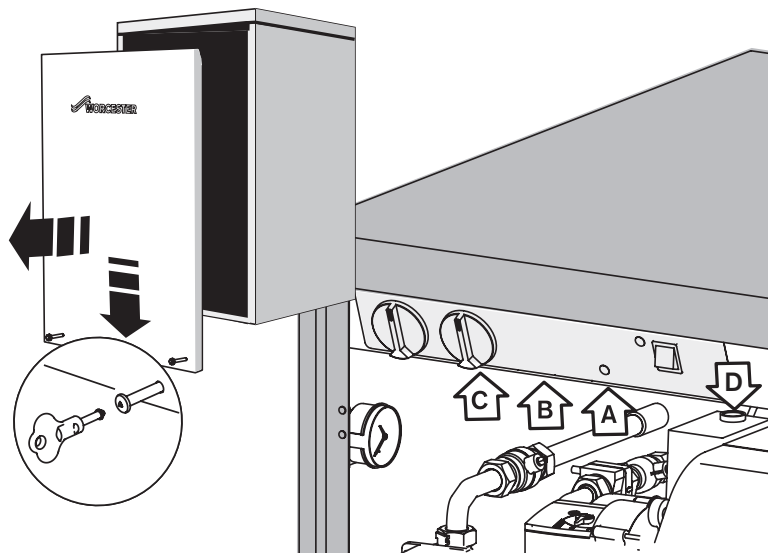
OPERATING THE BOILER

FAULT CONDITIONS:

The Boiler mode and Lockout lights can indicate some basic fault conditions.

(1) Accessing Controls:

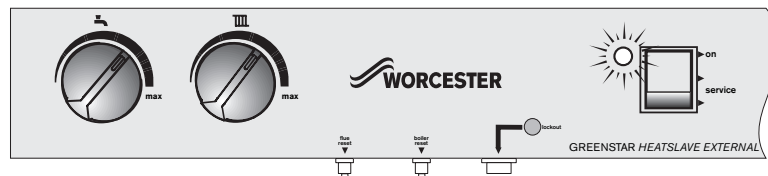
- ▶ Undo the screws on the bottom of the front panel using the tool provided. The panel can be removed by pulling out at the base and then sliding down to disengage from the lid.
- ▶ If button A does not reset the boiler press the alternative burner reset button (D).



(2) "Boiler mode" light ON, "Lockout" light off:

Normal operation

Mains power supply to boiler and the boiler is switched to the "boiler ON mode".

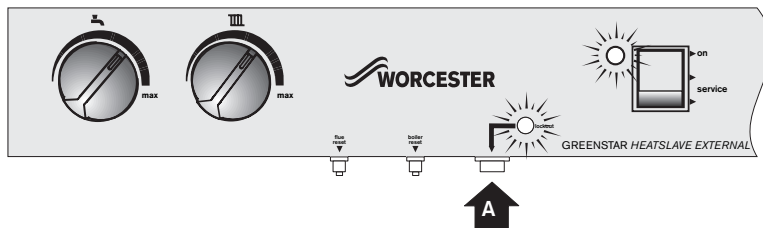


OPERATING THE BOILER

(3) Both lights on:

Boiler not firing

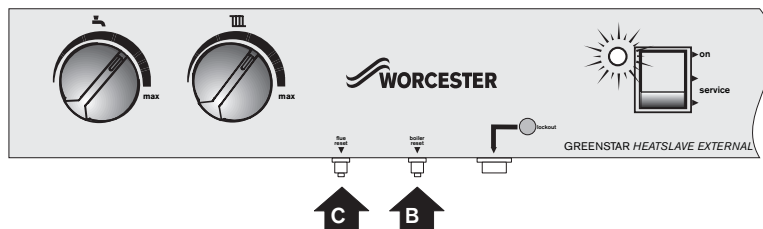
- ▶ Check the level in the oil tank.
- ▶ Press the reset button (A), the boiler should fire. If button (A) does not reset the burner, press the alternative burner reset (D).
- ▶ If there is no response, wait two minutes and press the reset button (A) again.
- ▶ If "lockout" light stays on, **do not** attempt further resets. Contact your service engineer for advice.



(4) Boiler mode light on, lockout light off:

Boiler not on - No heating/hot water

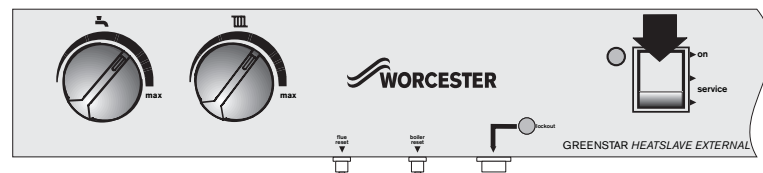
- ▶ Check the programmer is set to ON and thermostat is calling for heat.
- ▶ Press reset button (B) and reset button (C) both are below the fascia.
- ▶ If the boiler remains off, contact your service engineer for advice.



(5) Both lights off:

Boiler not on - No heating/hot water

- ▶ Ensure there is power supply to the boiler.
- ▶ Ensure that the mode switch is in boiler ON mode.
- ▶ If there is power supply to the boiler contact your service engineer for advice.

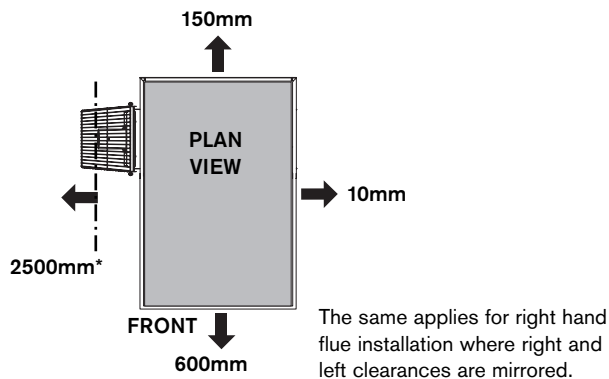
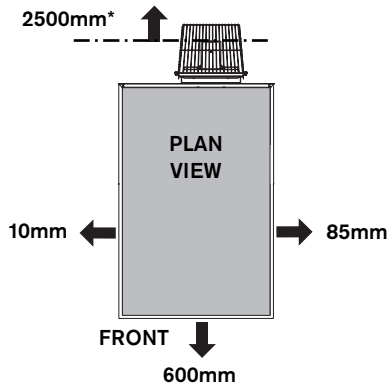
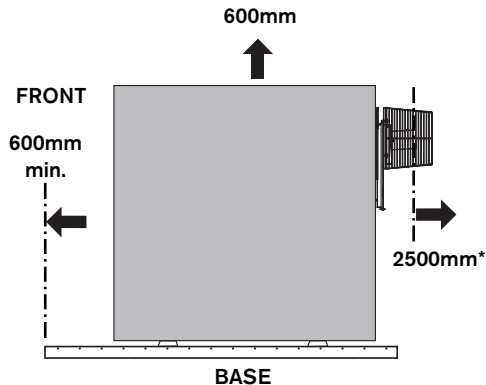


USING YOUR
BOILER

FAULT FINDING

Problem	Cause	Remedy
Desired room temperature is not reached	Thermostatic radiator valve(s) set too low	Increase thermostatic radiator valve setting(s)
	Room thermostat set too low	Increase room thermostat setting
	Temperature control for CH flow on boiler set too low	Increase CH flow temperature control setting
	Air trapped in heating system	Bleed radiators, if fitted to a sealed system recharge heating system
Desired room temperature exceeded by large amount	Radiators are too hot	Turn down thermostatic radiator valves / room stat
Temperature rises instead of falling	Clock is incorrectly set	Check setting
No display or control unit does not respond	Momentary power failure	Switch off boiler at master switch, wait a few seconds then switch on again
Hot water temperature too low	Hot water temperature set too low	Check hot water temperature control setting
	Hot water not in timed period on the programmer	Check programmer settings
	Heatslave tank not up to temperature	Allow time for Heatslave tank to reach temperature

INSTALLATION & SERVICING CLEARANCES



LOCATION & CLEARANCES

WARNING:

External equipment operating at 230 Volts must not be serviced during adverse weather conditions.

Do not use pressure washers or steam cleaners on this boiler or cabinet.

FUEL:

This boiler is designed to use kerosene, no other fuel may be used.

BOILER LOCATION:

WARNING:

Never allow the flue terminal or air inlet to become obstructed by plants or any other objects.

The cabinet is not load bearing, and only provides weather protection for the boiler inside.

There must be sufficient hard standing and access around the boiler for servicing.

*See Installation manual for further details.

MAINTENANCE

MAINTAINING YOUR BOILER

Your new boiler represents a long term investment in a reliable, high quality product.

In order to realise its maximum working life and to ensure it continues to operate at peak efficiency and performance, it is essential that servicing and maintenance checks are performed at least once a year by an OFTEC engineer or other suitably qualified person.

If you would like to know more about servicing options from Worcester, Bosch Group, please visit **worcester-bosch.co.uk**. Please tick the appropriate box on your warranty registration card for further details of the Worcester, Bosch Group Service Contract .

When your boiler requires servicing please contact a Worcester, Bosch Group contact centre (see inside front cover for details).

In addition to the service contract we are pleased to offer a one-off annual service or breakdown call out for your boiler.

Maintenance tips:

Regularly check the oil level in the tank.

Regularly check the system pressure, ask your installer for guidance.

Do not obstruct the flue outlet or the air inlet.

Do not pressure wash or steam clean the boiler or its cabinet.

To clean the cabinet wipe down with soapy water.

USE IN HARD WATER AREAS:

In exceptionally hard water areas a device to prevent scale formation may be fitted. Installation of a scale inhibitor assembly should be in accordance with the requirements of the local water company. An isolating valve should be fitted to allow for servicing.

SERVICING

SERVICING:

You must have the boiler regularly serviced by a competent, qualified OFTEC registered engineer using approved spares, to help maintain the economy, safety and reliability of the boiler.

The boiler should be serviced once each year after installation unless the installation conditions and usage demand more frequent services.

Although the boiler is serviced externally, the engineer will require access to the property to operate the system controls.

IMPORTANT:-

Ensure that the service engineer completes the Service Record in the checklist after each service.

The completed checklist will be required in the event of any warranty work and may be required by the local Building Control Inspector.

NOTE:

The checklist and service interval record can be found at the rear of the Installation, Commissioning and Servicing Instructions.

MAINTENANCE

GENERAL NOTES

To get the best from your boiler, please read these instructions carefully.

SEALED HEATING SYSTEMS

Where the boiler is fitted to a sealed heating system your installer will inform you of the minimum and maximum pressure which must be indicated on the pressure gauge.

Check regularly that the pressure is maintained and contact your installer or maintenance engineer if there is a noticeable, permanent drop in pressure. If the system loses pressure it should be repressurised and the cause of the loss investigated.

CENTRAL HEATING SYSTEMS

During the first few hours of operation of the central heating system, check that all radiators are being heated at an even rate. If the top of a radiator is at a lower temperature than the bottom then it should be vented by releasing air through the venting screw at the top of the radiator. Ask your installer to show you how this is done. Repeated venting will reduce the quantity of water in the system and this must be replenished for safe and satisfactory operation of the boiler.

When excessive venting or water leaks are found in the system you must contact a service engineer to inspect the installation and rectify any fault.

Only use additives compatible with the boiler and system. Use of incompatible additives can cause damage and will invalidate the boiler guarantee.

GENERAL INFORMATION

CONDENSATE DRAIN

This is a condensing boiler and the terminal will, at times give out a plume of water vapour. This is quite normal.

The boiler also produces quantities of condensate which is discharged regularly via a pipe to drain. This pipe must not be blocked or altered in any way.

CLEARANCES - SERVICE

Your installer will have provided adequate space around the boiler for safety and servicing access. Do not restrict the space around the boiler.

ROOM THERMOSTAT

A room temperature controller must be fitted to control the central heating. Refer to instructions supplied with the thermostat for information on siting and setting.

THERMOSTATIC RADIATOR VALVES

It is recommended that this type of valve is fitted to all but one of the radiators (or at least those in the sleeping accommodation). The remaining radiator, which must be where the room thermostat is located, should be un-controlled and must be left open.

TIPS ON ENERGY SAVING

Room thermostats:

Reducing the setting of the room thermostat by 1°C can reduce fuel consumption by up to 10%.

New control systems:

Upgrade your heating control system with the latest equipment available. The minimum level of control for a heating system is a programmer, interlocking room thermostat and thermostatic radiator valves.

Radiators:

More often than not radiators will be sited underneath a window, so the warm air from the radiator heats the colder incoming air from the window.

The performance of the radiator will be affected if the curtains are allowed to drape over the radiator or shelves are fitted above it.

The positioning of furniture and tables in front of the radiator should also be avoided.

It is advisable to manually adjust all radiator valves every 2-3 months to prevent them from sticking. It is also important that the plastic tops of all valves are always in position and not cracked or damaged to help prevent accidents. Care should be taken when vacuum cleaning carpets to avoid damage to valves and pipework.

The heating system and the outputs of the radiators have been carefully selected by your installer. The temperature obtainable in any given room is dependent on all radiators being operated at the same time. If you decide to turn off radiators in unused rooms, spare bedrooms etc., you may experience slightly lower room temperatures in rooms adjacent to unheated rooms.

Heating economically:

The boiler is designed to provide a high level of comfort while keeping oil consumption and the resulting environmental effect as low as possible.

The central heating control on the boiler should be set as low as possible while still maintaining a comfortable room temperature.

The temperature of each room can be set individually using the thermostatic radiator valves (except the primary room with the room thermostat).

Roof insulation:

Around 30% of the heat loss from a property is through the roof. Replace any old insulation with new insulation, preferably to a minimum thickness of 200mm.

Window frames:

Single glazed windows, particularly those with steel frames, can lose a great deal of heat.

Consideration should be given to replacement with PVCu or wooden framed double glazed units.

Curtains:

Lined curtains, or heavier full length curtains can provide excellent insulation. However, always ensure that the curtains do not drape over radiators.

Draughts:

Try to ensure that draughts around doors, windows, letterboxes and keyholes etc., are reduced by using a suitable draught excluder.

Warning: do not block or seal any air vents that are installed to ensure the central heating boiler (or other appliance) operate safely.

ENERGY
SAVING

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FAULT OR BREAKDOWN

This boiler is supported in mainland UK by Worcester, Bosch Group, part of Bosch Thermotechnology Ltd.

Specialist trained, Worcester, Bosch Group Service Engineers are available to attend in the unlikely event that a breakdown occurs on this boiler.

No charge will be made for parts and/or labour providing:

- ▶ A boiler fault is found and the boiler has been installed within the past 24 months. Reasonable evidence of this must be supplied on request

A call-out charge will be made where:

- ▶ The boiler has been installed for over 24 months. OR
- ▶ Our Field Service Engineer finds no fault with the boiler (see Note). OR
- ▶ Evidence cannot be provided that the first year service inspection has been carried out. (i.e. an entry in the service interval record found at the rear of the boiler installation and servicing manual). OR
- ▶ The cause of breakdown is misuse or with other parts of your plumbing/heating system, or with equipment not supplied by Bosch Thermotechnology Ltd.

NOTE: NO BOILER FAULT IS FOUND ON OVER 30% OF ALL SERVICE CALL OUTS.

Please read this guide carefully to gain a good understanding of the operation of your boiler. In the case of a suspected fault, refer to the fault finding section of this guide.

If in doubt contact our Technical Support

In the event of an boiler fault or breakdown please contact our Service Department. Your service administrator will arrange for an Engineer to call with the minimum of delay. Under normal circumstances this will be from 1 to 3 working days (excluding weekends) for priority breakdown situations (no hot water and/or heating).

Invoices for attendance and repair work carried out on this boiler by any third party will not be accepted.

BOILER DATA LABEL

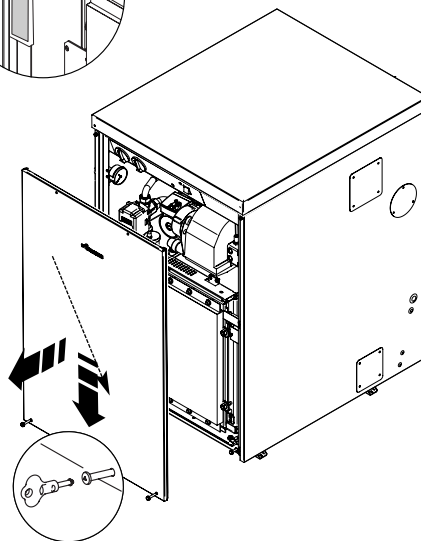
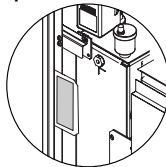
The data label can be found on the inside of the left hand panel. To access:

- ▶ Unscrew the two screws on the bottom of the front panel using the tool provided. The panel will drop down and can be carefully removed.

To replace:

- ▶ Push the front panel up behind the top panel, push in and secure in place with the screws.

Data label location behind front panel



GUARANTEE

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FAULT OR BREAKDOWN

GREENSTAR HEATSLAVE EXTERNAL 12/18 - 18/25 - 25/32
8 716 113 390e (03.2010)

WORCESTER
Bosch Group

GUARANTEE REGISTRATION

You should complete and return the postpaid Guarantee Registration Card within 30 days of installation.

Returning your card will register you as the owner of your new boiler and will assist us in maintaining an effective and efficient customer service by establishing a reference and permanent record for your boiler.

This does not affect your statutory rights.

For your own record:

Model _____

Serial No. _____

(See identity label inside boiler casing)

Type / size _____

Date of installation _____

Installer details _____

YOUR GUARANTEE

This boiler is guaranteed against faulty materials or workmanship for a period of 24 calendar months (60 months for the primary heat exchanger) from the date of installation subject to the following conditions:

- ▶ That during the period of this guarantee any components of the unit which are proved to be faulty or defective in manufacture will be exchanged or repaired free of material charges and free of labour charges if repaired directly by Bosch Thermotechnology Ltd. **Please be aware that invoices for attendance and repair of this boiler by third parties will not be accepted for payment by Bosch Thermotechnology Ltd.**
- ▶ That the householder may be asked to prove, when requested, the date of installation, that the boiler was correctly commissioned and, where appropriate, that the 12 month service inspection has been carried out to the satisfaction of Bosch Thermotechnology Ltd, when requested. The guarantee card must then be returned within 30 days of installation.
- ▶ That any product or part thereof returned for servicing under the guarantee must be accompanied by a claim stating the Model, Serial Number and Date of Installation.
- ▶ That Bosch Thermotechnology Ltd will not accept responsibility for damage caused by faulty installation, neglect, misuse or accidental damage and non-observance of the instructions contained in the Installation and Users Instructions leaflets.
- ▶ That the boiler has been used only for normal domestic purposes, for which it was designed.
- ▶ This guarantee applies only to equipment purchased and installed in mainland UK.

This guarantee is given in addition to all your normal statutory rights.

Worcester, Bosch Group is a brand name of Bosch Thermotechnology Ltd.

GUARANTEE

If the boiler fails to give complete satisfaction, please check the following before calling for a service engineer:-

General checks

1. Oil level in the tank
2. Power to the boiler
3. All control settings
4. The system pressure is appropriate for your system
(see page 6)

Dedicated to heating comfort

Worcester, Bosch Group

Cotswold Way, Warndon, Worcester WR4 9SW.

Tel. 0844 892 9900 Fax. 01905 754619

www.worcester-bosch.co.uk

Worcester, Bosch Group is a brand name of Bosch Thermotechnology Ltd.

8 716 113 390e (03.2010)

 **WORCESTER**
Bosch Group